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Product Launch

GSM – FIXED CELLULAR TERMINAL

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GSM FIXED CELLULAR TERMINAL (F151s)

The fixed cellular terminal is a GSM terminal to which conventional fixed telephony equipment can be connected in such a way that access to the switched telephone network is established via the GSM network.

The F151s units incorporate a standard telephone interface to which any conventional telephone equipment can be connected – just like plugging in the telephone to the traditional fixed analogue network. The units include the best of both worlds, fixed and mobile telephony. As far as the end-customer is concerned, it is simply a telephone plug...with a little extra!

Additionally, the F151s can be connected to a PBX. When Low Cost Routing (LCR) is programmed onto the PBX, calls to mobiles made from the desktop will be charged at the prevailing mobile-to-mobile tariff. This could enable the customer to make significant cost savings on their telephone bill.

Excellent quality of voice is guaranteed thanks to Enhanced Full Rate CODEC. In addition, the unit' s intelligence allows it to carry out automatic network searches and can operate on DUAL bands. The possibility of using a safeguard battery should there be a failure in mains power yields maximum telephone network access in any circumstance.

These units are adaptable and can be installed anywhere within a building, or wherever the fixed telephone connection is eventually needed. They have been designed to be extremely easy to install in order to keep associated start-up costs to an absolute minimum.

As these are GSM terminals, they provide the entire range of subscriber services that the network supports, such as pre-pay subscriptions, **C**all **L**ine **I**dentification presentation (CLIP) through the a/b line, SMS, Call Waiting, Call Barring, Call Forwarding, Multi-Conferencing or Alternate Line Service.

UNIT DESIGN

The F151s is designed for internal installation only. Its size makes installing more than one F151s unit simple, rapid and versatile.

The F151s fixed cellular terminals have no keyboards or screens, since their natural user interface is a telephone connected to the unit. All of the functions of the device are operated via this telephone.

Two light indicators on the front panel, green and red, supply users with information on the status of the fixed cellular terminal. The level of the incoming signal, AC or battery function and other status information can be obtained via these indicators. The front cover of the unit can be removed, revealing a space inside for inserting a power fail standard lead battery.

CONFIGURATION OF KITS

F151s terminal kit includes all the required equipment to make installation as easy as possible.

F151s TERMINAL KIT consists of:

- F151s terminal
- AC/DC adapter
- AC cable
- Wall installation base
- Installation material
- Internal antenna
- F151s user guide
- BT type RJ45 phone socket

THE FD10 FAX DATA ADAPTER

The FD10 adapter is an external accessory, which is connected to the system connector on the lower part of the F151s terminals. The accessory is designed so that the fixed cellular unit with the adapter attached looks like a single integrated unit.
The FD10 can be inserted directly in the fixed cellular unit without having to dismantle it. When users need fax and data services, they simply purchase the unit, insert it in the F151s and it is ready for immediate use. The adapter requires no special skills whatsoever in order to be installed, and therefore installation can be easily done by the end-user.

The FD10 basically carries out two functions:

1. *It serves as a GSM modem.*
   It provides an RS232 serial port into which a PC can be directly connected for data transmission (file transfers, Internet, etc.). No additional modem needs to be purchased, since the FD10 is a modem itself.
2. *It adds extra functions to the F151s units.*
   When the FD10 is inserted in the F151s, G3 faxes can be sent and data reader services (such as credit card readers) can be used by means of the line connector. The FD10 does not supply an additional line connector but instead enhances the functionality of the connector of the equipment to which it is installed.

THE FI12 ISDN ADAPTER

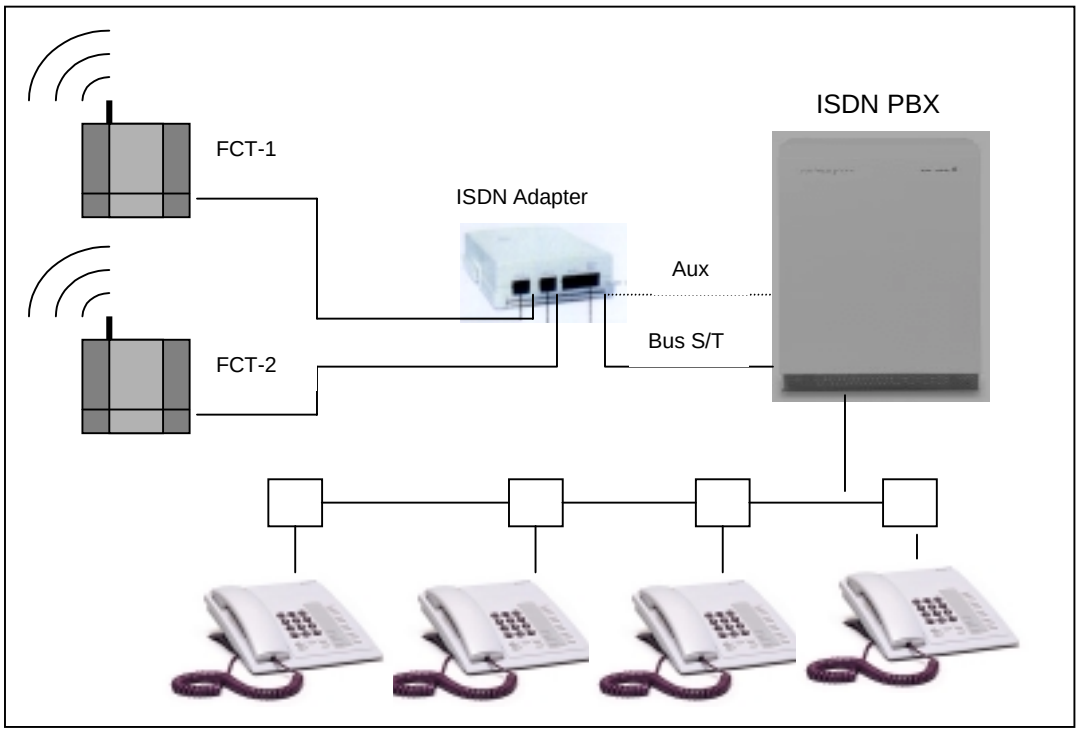
The ISDN Adapter is an interface between an ISDN 2B+D output trunk,on a PBX, and up to two F151s units.

The ISDN Adapter behaves as an ISDN Network Terminator in a point-to-point configuration and provides 2 speech channels; each B channel is linked to one F151s FCT via an analogue interface.

The ISDN Adapter, via two F151s Business FCT's, helps the PBX ISDN 2B+D basic lines route speech calls towards the GSM network providing a saving on call costs.

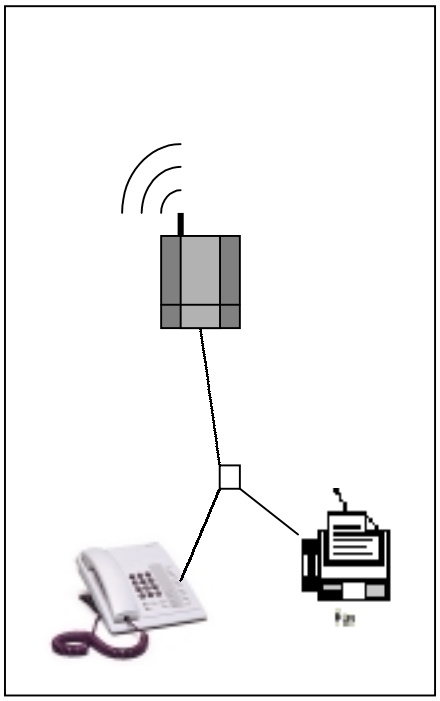
CLIP feature is provided.

ISDN Adapter working environment.

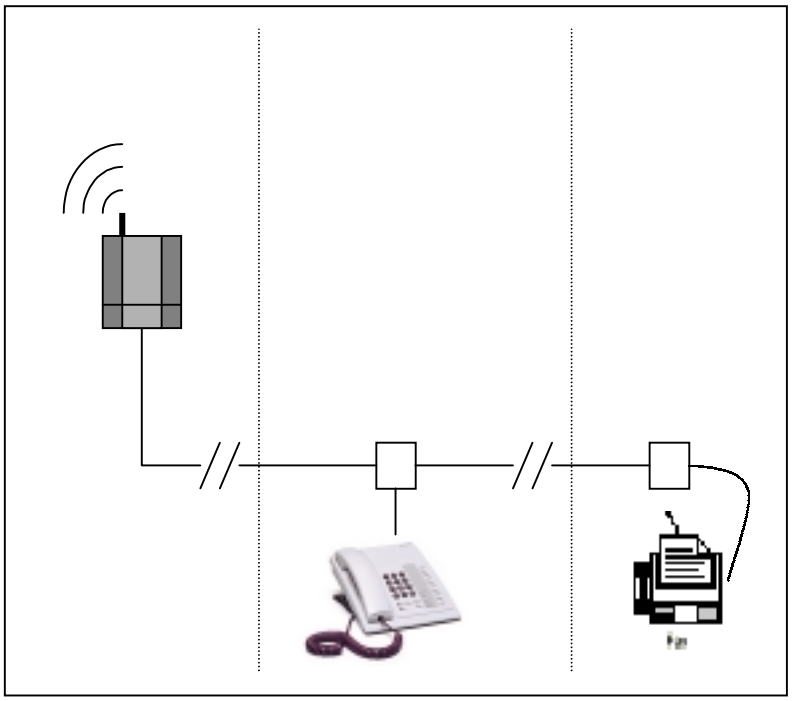


INSTALLATION

The F151s is intended to be wall mounted therefore, a wall installation kit is included. The kit includes installation material comprising screws, protective rubber parts and a quick installation manual. There is also a table-top mounting stand available to allow instant installation with no need to screw the unit to walls etc.



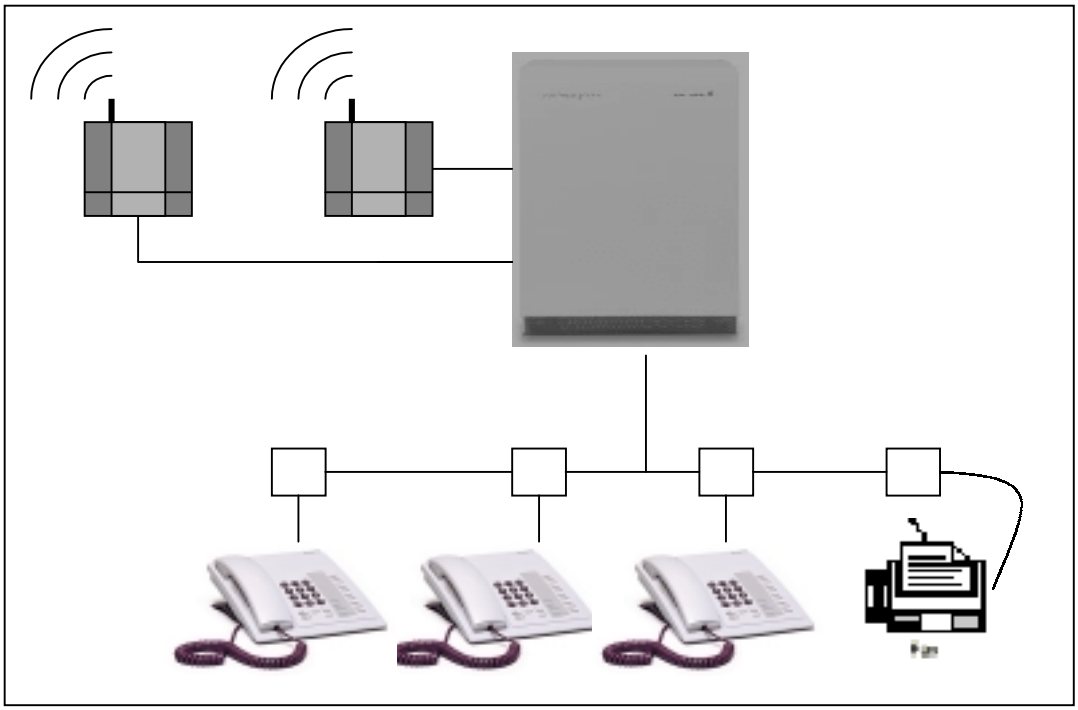
OPTION A: telephone handset and fax connected directly to FCT + FD10



OPTION B: FCT + FD10 connected to the internal wiring of house or small office.

The kits include an internal high sensitivity antenna, which maximises installation of the unit with the highest service level. The fax and data adapter FD10 is extremely easy to install. You only need to attach it to the lower connector of the F151s unit and it will be ready to use immediately. The kit also includes a user guide.

Additionally, the F151s can be connected to a PBX. When Low Cost Routing (LCR) is programmed onto the PBX, calls to mobiles made from the desktop will be charged at the prevailing mobile-to-mobile tariff. This could enable the customer to make significant cost savings on their telephone bill.



OPTION C: FCT connected to a customer's PBX

Multiple F151s units can be connected to any spare analogue exchange line ports on the customers' PBX. Many PBX's are situated in areas where GSM coverage is poor. To overcome this there are a range of antennae that can be placed in, for example, a room with good coverage on glass or even externally on a wall.

TECHNICAL DESCRIPTION

FIXED NETWORK SUPPORTED SERVICES

The F151s supports conventional pulse or DTMF telephone equipment. In addition, the F151s is specially designed for maximum compatibility with most PABX analogue links on the market. The F151s are programmed so that they provide exactly the same characteristics as the fixed network. The line connector in the fixed cellular terminal is electronically and functionally the same as the fixed network telephone plug. The nature of the equipment is " transparent" in terms of end-users as well as the telephone equipment connected. The self-adapting line level controller and the powerful echo cancellation in the units guarantee excellent quality of speech.
The units also support Automatic Area Code insertion. This function automatically adds the local area code to calls within the same area so that users do not have to bother dialling area codes where they are not required.

GSM NETWORK SUPPORTED SERVICES

The F151s units provide the entire range of services offered by a GSM terminal. This is particularly advantageous for a fixed network-emulating unit, since it can offer much more than a conventional fixed line usually does.
Subscriber services operate from the conventional DTMF device connected to the unit, and therefore all of the information regarding activation and handling is described in detail in the user guide included in the kit.
The following subscriber services can be offered, as long as the network supports them:

1. Call line identification presentation (CLIP)

The units support ETSI presentation standards via DTMF of the call line through the two-wire telephone line. In this way, if an ETSI-complying telephone with a screen is connected, the call number can be displayed, with all of the advantages this adds. When the FD10 adapter is used, the unit also supports caller number presentation in compliance with standards ETSI V23 and BELLCORE.

2. Voice Mail

If there is a message in the user' s voice mail, the unit will generate a special tone advising the user to dial the voice mail number in order to hear the message.

3. Pre-pay Subscriptions

Pre-pay subscriptions for the F151s units can be used allowing users to control their telephone costs. Pre-payment subscriptions can also be recharged via conventional phones connected to the unit.

4. Short Message Service (SMS)

A PC can be connected to the fixed cellular equipment without the FD10 adapter so that a short message program can be used. When the FD10 is used it is also possible to read short message received on the built-in screen.
In addition, users can use the following, well known, GSM network services:

5. Call hold
6. Call waiting
7. Call forward
8. Multiparty
9. Call transfer
10. Call barring
11. Fixed number dialling
12. Alternate line services

Available services with the F151s when the FD10 is connected.

Support for fax group 3
When the FD10 is connected, fax Group 3 machines can be connected to the F151s units. The following fax transmission speeds can be obtained: 2400, 4800 and 9600 bps.
Analogue modem
ITU-T V.22bis (up to 1200 bps) analogue modems can also be used. This is the generally used modulation for electronic transaction in data readers and other similar tele-services.
CLIP (Call line identification presentation)
The F151s units include the call line presentation feature, in accordance with ETSI standards, based on the transmission of characters through DTMF tones. This is the most common standard although not the only one on the market.
Generation of 12 and 16 kHz rate pulses
The FD10 can generate 12 or 16 kHz rate pulses to the telephone connected to the fixed cellular terminal. These pulses are generated according to Advice of Charge (AOC) received from the GSM system.

Fax and data services in the RS232 connector of the FD10

RS232 data services
The FD10 incorporates a GSM modem, which makes it possible to directly connect a personal computer to transmit and receive data. No additional modem is needed, as the FD10 is a modem itself. Therefore, with the FD10 and a personal computer you can get the most out of a fixed cellular network.
Data transmission speeds of up to 38400 bps can be achieved through V42bis compressing.
RS232 fax services
This service is provided in compliance with the interface specification RS232 and according to standards V.25ter, ANSI/EIA/TIA-578-1990, EIA-SP2388, ANSI/TIA/EIA-592-1993 and ANSI/TIA/EIA-605-1992.

LCD display in the FD10

The FD10 also includes a screen on which the status of the fixed cellular terminal is reported. Subscriber services provided by the F121s Residential and F151s Business units can be run via this screen. It provides an easy way to use these services.
A menu system controlled by the keyboard of the telephone connected to the fixed cellular terminal enables several functions to be carried out on the screen:
terminal configuration, obtaining CLI, short message reading, activation/deactivation and use of supplementary services, RSSI metering during installation, etc.
This advantageous solution enables the FD10 to be used as a test handset for installation and maintenance equipment. All the necessary information can be obtained on the FD10 screen and the keyboard of the telephone connected to the fixed cellular terminal can be used to go from one menu to another.

Call Charge Comparison

		Vodafone Business	Orange OVP	BT Cellnet	BT Fixed Line
Connection *		FREE	FREE	FREE	
Monthly Inclusive Calls					
Monthly Line Rental		£11.91	£11.91	£11.00	
Standard National & (Local) Call Charges (per min)	Daytime	8.5p	8.5p	8.5p (7.0p)	17.0p
	Evening	4.2p	4.2p	7.0p (4.0p)	13.3p
	Weekend	4.2p	4.2p	1.7p (1.7p)	6.3p
Calls to mobile phones (per min) N.B. Own network	Daytime	8.5p	8.5p	7.0p	17.0p
	Evening	4.2p	4.2p	7.0p	13.3p
	Weekend	4.2p	4.2p	1.7p	6.3p

- Connection charge currently waived/ included, but is subject to change.
- Tariffs, correct at time of printing, however, are subject to change.
- Further Tariff information (i.e. multiple or group) available on request.

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